

Supplemental Response

Page 2 of 3

Serial No.: 09/497,967

Confirmation No.: 8124

Filed: February 4, 2000

For: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF ICHTHYOPHTHIRIUS**Remarks**

The Office Action mailed 9 April 2003 has been received and reviewed.

Applicants have filed an Amendment and Response on 8 October 2003.

Information Disclosure Statement

Applicants submitted an Information Disclosure Statement on June 16, 2000, and the Patent Information Retrieval System indicates that the Information Disclosure Statement was received by the United States Patent and Trademark Office (Exhibit A, 2 pages). However, Applicants have not received an initialed copy of the 1449 forms indicating that the Examiner has considered the listed documents.

For the Examiner's convenience, Applicants are attaching a courtesy copy of the 1449 forms submitted with the Information Disclosure Statement on June 16, 2001 (Exhibit B, 11 pgs). Also included is a copy of the return-receipt stamped postcard, indicating that the U.S. Patent and Trademark Office received the Information Disclosure Statement on June 20, 2000 (Exhibit C, 1 pg). Courtesy copies of these 1449 forms were faxed to the previous Examiner (I. Fields) on December 11, 2001, and Examiner Fields had indicated that she was in possession of the documents listed on these 1449 forms.

Consideration of each of the documents listed on the attached 1449 forms is respectfully requested. Pursuant to the provisions of M.P.E.P. §609, Applicants further request that a copy of the 1449 forms, marked as being considered and initialed by the Examiner, be returned with the next Official Communication. The Examiner is asked to contact Applicants' Representative if replacement copies of these documents should prove necessary.

Supplemental Response

Page 3 of 3

Serial No.: 09/497,967

Confirmation No.: 8124

Filed: February 4, 2000

For: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF ICHTHYOPHTHIRIUS**Summary**

The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted for
Clark et al.

By
Mueting, Raasch & Gebhardt, P.A.
P.O. Box 581415
Minneapolis, MN 55458-1415
Phone: (612) 305-1220
Facsimile: (612) 305-1228
Customer Number 26813

Nov 24, 2003
Date

By: U.L. Sandberg
Victoria A. Sandberg
Reg. No. 41,287
Direct Dial (612)305-1226

CERTIFICATE UNDER 37 CFR §1.8:

The undersigned hereby certifies that the Transmittal Letter and the paper(s), as described hereinabove, are being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to Assistant Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 24th day of November, 2003, at 4:05 p.m. (Central Time).

By: Rachel Gaylind Gaba
Name: Rachel Gaylind Gaba

Exhibit A

PAIR Page

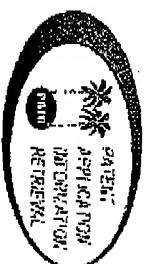
Page 1 of 2



United States Patent and Trademark Office

[Home](#) | [Site Index](#) | [Search](#) | [Guides](#) | [Contracts](#) | [eBusiness](#) | [eBiz Alerts](#) | [News](#) | [Help](#)

PATENT APPLICATION INFORMATION RETRIEVAL



Search results for application number: 09/497,967

Application Number:	09/497,967	Customer Number:	26813
Filing or 371(c) Date:	02-04-2000	Status:	Response to Non-Final Office Action Entered and Forwarded to Examiner
Application Type:	Utility	Status Date:	11-05-2003
Examiner Name:	MARK NAVARRO, ALBERT	Location:	ELECTRONIC
Group Art Unit:	1645	Location Date:	10-20-2003
Confirmation Number:	8124	Earliest Publication No.:	-
Attorney Docket Number:	235.00170101	Earliest Publication Date:	-
Class/Sub-Class:	424/191.1	Patent Number:	-
First Named Inventor:	Theodore Clark, Ithaca, NY	Issue Date of Patent:	-
Title Of Invention: Diagnostic and protective antigen gene sequences of <i>ichthyophthirius</i>			
Image File Wrapper	Foreign Priority	Continuity Data	Publication Review

File Contents History	
Number	Date
36	11-05-2003
35	10-08-2003
34	10-08-2003
33	04-09-2003
32	04-07-2003
31	01-31-2003

[Image File Wrapper](#)[Foreign Priority](#)[Continuity Data](#)[Publication Review](#)

11/24/2003 16:08 FAX 6123051228

MUETING RAASCH GEBHARDT

30	06-03-2002	Response after Non-Final Action
29	06-03-2002	Request for Extension of Time - Granted
28	04-17-2002	Examiner Interview Summary Record (PTO-413)
27	01-17-2002	Information Disclosure Statement (IDS) Filed
26	01-02-2002	Mail Non-Final Rejection
25	12-31-2001	Non-Final Rejection
24	01-31-2003	Data Forwarded to Examiner
23	08-06-2001	Response to a Letter to Comply with the Sequence Rules
22	08-06-2001	Request for Extension of Time - Granted
20	01-09-2003	Case Docketed to Examiner in GAU
19	12-16-2002	Case Docketed to Examiner in GAU
12	07-02-2001	Mail Letter Requiring CRF (Unreadable, Non-Compliant, Not Submitted)
11	07-02-2001	CRF Diskette Unreadable / Did Not Comply / Required but Not Submitted
10	06-20-2000	Information Disclosure Statement (IDS) Filed
9	06-20-2000	Preliminary Amendment
8	07-18-2000	Case Docketed to Examiner in GAU
7	07-10-2000	Application Dispatched from OIPE
6	07-10-2000	Application is Now Complete
5	04-24-2000	Incomplete Application under Rule 53(b) - Filing Date Assigned
4	04-24-2000	Correspondence Address Change
3	03-02-2000	FW Scan & PACR Auto Security Review
2	02-10-2000	Preexamination Location Change
1	02-10-2000	Initial Exam Team nn

[HOME](#) | [INDEX](#) | [SEARCH](#) | [eBUSINESS](#) | [CONTACT US](#) | [PRIVACY STATEMENT](#)

Exhibit B

OMB No. 0651-0011

Page 1 of 11

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 235.0017 0101	Serial No.: 09/497,967
	Applicant(s): Ted CLARK et al.	
	Filing Date: 4 February 2000	Group: 1646

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	SubClass	Filing Date If Appropriate
	4,309,416	01/05/82	Gratzek et al.			
	5,661,032	08/26/97	Miller et al.			
	5,695,965	12/09/97	Stuart et al.			
	5,780,448	04/17/98	Davis			

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	SubClass	Translation	
						Yes	No
	WO 81/00812	04/02/81	PCT				
	WO 90/14428	11/29/90	PCT				
	WO 98/01572	01/15/98	PCT (with English language abstract)				

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

	Alexander, "A New Immobilization Test for <i>Tetrahymena pyriformis</i> ," <u>Trans. Amer. Microsc. Soc.</u> , 86(4):421-427 (1967).
	Al-Qahtani et al., "A 5' untranslated region which directs accurate and robust translation by prokaryotic and mammalian ribosomes," <u>Nuc. Acids Res.</u> , 24(6):1173-1174 (1996).
	Areerat, <u>The Immune Response of Channel Catfish, Ictalurus punctatus (Rafinesque)</u> , to <u>Ichthyophthirius multifiliis</u> , Master's thesis, Auburn University, 47 pages (1974).
	Berg et al., "The Galvanization of Biology: A Growing Appreciation for the Roles of Zinc," <u>Science</u> , 271:1081-1085 (1996).
	Blomberg et al., "Regulatory Sequences for the Amplification and Replication of the Ribosomal DNA Minichromosome in <i>Tetrahymena thermophila</i> ," <u>Mol. Cell. Biol.</u> , 17(12):7237-7247 (1997).
	Bolduc et al., "β-Tubulin mutants of the unicellular green alga <i>Chlamydomonas reinhardtii</i> ," <u>Proc. Natl. Acad. Sci. USA</u> , 85(1):131-135 (1988).
	Boothroyd et al., eds., <u>Molecular Approaches to Parasitology</u> , John Wiley & Sons, New York, Title page, publication page and table of contents only, 4 pages (1995).

EXAMINER	Date Considered

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

OMB No. 0651-0011
Pag 2 of 11

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 235.0017 0101	Serial No.: 09/497,967
	Applicant(s): Ted CLARK et al.	
	Filing Date: 4 February 2000	Group: 1646

		Brosius et al., "Gene Organization and Primary Structure of a Ribosomal RNA Operon from <i>Escherichia coli</i> ," <i>J. Mol. Biol.</i> , 148(2):107-127 (1981).
		Brunk et al., "Analysis of Nuclei from Exponentially Growing and Conjugated <i>Tetrahymena thermophila</i> Using the Flow Microfluorimeter," <i>Exp. Cell Res.</i> , 162:390-400 (1986).
		Brunk et al., "Characterization of the promoter region of <i>Tetrahymena</i> genes," <i>Nuc. Acids. Res.</i> , 18(2):323-329 (1990).
		Brunk, "Ciliates display promise for foreign gene expression," <i>Nature Biotechnology</i> , 17:424-425 (May, 1999).
		Burkart et al., "Immunization of channel catfish, <i>Ictalurus punctatus</i> Rafinesque, against <i>Ichthyophthirius multifiliis</i> (Fouquet) killed versus live vaccines," <i>J. Fish Dis.</i> , 13:401-410 (1990).
		Caras et al., "Cloning of decay-accelerating factor suggests novel use of splicing to generate two proteins," <i>Nature</i> , 325:545-549 (1987).
		Caras et al., "Signal Peptide for Protein Secretion Directing Glycophospholipid Membrane Anchor Attachment," <i>Science</i> , 243(4895):1196-1198 (1989).
		Caron et al., "Molecular Basis of Surface Antigen Variation in Paramecia," <i>Ann. Rev. Microbiol.</i> , 43:23-42 (1989).
		Caruthers, "New Methods for Chemically Synthesizing Dcoxyoligonucleotides," <i>Methods of DNA and RNA Sequencing</i> , Weissman, ed., Praeger Publishers, New York, Title Page, publication page and pages 1-22 (1983).
		Cassidy-Hanley et al., "Germline and Somatic Transformation of Mating <i>Tetrahymena thermophila</i> by Particle Bombardment," <i>Genetics</i> , 146:135-147 (1997).
		Catterall et al., "Nucleotide sequence homology at 12 intron-exon junctions in the chick ovalbumin gene," <i>Nature</i> , 275(5680):510-513 (1978).
		Chen et al., "A <i>Giardia duodenalis</i> gene encoding a protein with multiple repeats of a toxin homologue," <i>Parasitol.</i> , 111(4):423-431 (1995).
		Clark et al., "In vitro response of <i>Ichthyophthirius multifiliis</i> to sera from immune channel catfish," <i>J. Fish Biol.</i> , 31(Supplement A):203-208 (1987).
		Clark et al., "Immune Response of Channel Catfish to Ciliary Antigens of <i>Ichthyophthirius multifiliis</i> ," <i>Devel. Comp. Immunol.</i> , 12(3):581-594 (1988).

EXAMINER	Date Considered
----------	-----------------

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

OMB N . 0651-0011
Page 3 of 11

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 235.0017 0101	Serial No.: 09/497,967
	Applicant(s): Ted CLARK et al.	
	Filing Date: 4 February 2000	Group: 1646

		Clark et al., "Differential Expression of Membrane Antigen Genes in <i>I. multifiliis</i> , a Protozoan Pathogen of Fish," Abstract and Poster, Annual Meeting on Molecular Parasitology, Woods Hole, MA, September 9-12, 7 pages (1990).
		Clark et al., "Developmental expression of surface antigen genes in the parasitic ciliate <i>Ichthyophthirius multifiliis</i> ," <i>Proc. Natl. Acad. Sci. USA</i> , <u>89</u> :6363-6367 (1992).
		Clark et al., "Surface Immobilization Antigens of <i>Ichthyophthirius multifiliis</i> : Their Role in Protective Immunity," <i>Ann. Rev. Fish Dis.</i> , <u>5</u> :113-131 (1995).
		Clark et al., "Surface antigen cross-linking triggers forced exit of a protozoan parasite from its host," <i>Proc. Natl. Acad. Sci. USA</i> , <u>93</u> (13):6825-6829 (1996).
		Clark et al., "Antibody-mediated Effects on Parasite Behavior: Evidence of a Novel Mechanism of Immunity against a Parasitic Protist," <i>Parasitol. Today</i> , <u>13</u> (12):477-480 (1997).
		Clark, "Molecular Approaches to the Control of <i>Ichthyophthirius</i> Infection," Abstract, Grant for Oct. 25, 1997 through June 30, 2002, Cooperating Schools of Veterinary Medicine GEOV, proj. No. NYCV-433-391 (Available on-line on or before July 19, 1998).
		Clark et al., "The gene for an abundant parasite coat protein predicts tandemly repetitive metal binding domains," <i>Gene</i> , <u>229</u> (1-2):91-100 (March 18, 1999).
		Cohen et al., "Expression of a Ciliate Gene in <i>Escherichia coli</i> Using a Suppressor tRNA to Read the UAA and UAG Glutamine Codons," <i>J. Mol. Biol.</i> , <u>216</u> :189-194 (1990).
		Cross et al., "Ichthyophthiriasis in carp, <i>Cyprinus carpio</i> L.: fate of parasites in immunized fish," <i>J. Fish Dis.</i> , <u>15</u> :497-505 (1992).
		Cupples et al., "Isolation and characterization of the actin gene from <i>Tetrahymena thermophila</i> ," <i>Proc. Natl. Acad. Sci. USA</i> , <u>83</u> (14):5160-5164 (1986).
		Deak et al., "Sequence, codon usage and cysteine periodicity of the <i>SerH1</i> gene and in the encoded surface protein of <i>Tetrahymena thermophila</i> ," <i>Gene</i> , <u>164</u> :163-166 (1995).
		Dempsey et al., "C3d of Complement as a Molecular Adjuvant: Bridging Innate and Acquired Immunity," <i>Science</i> , <u>271</u> :348-350 (1996).
		Deng et al., "Site-Directed Mutagenesis of Virtually Any Plasmid by Eliminating a Unique Site," <i>Anal. Biochem.</i> , <u>200</u> :81-88 (1992).

EXAMINER	Date Considered

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

OMB No. 0651-0011
Page 4 of 11

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 235.0017 0101	Serial No.: 09/497,967
	Applicant(s): Ted CLARK et al.	
	Filing Date: 4 February 2000	Group: 1646

		Dickerson et al., "Ichthyophthirius multifiliis Has Membrane-Associated Immobilization Antigens," <i>J. Protozool.</i> , 36(2):159-164 (1989).
		Dickerson et al., "Molecular Approaches to the Prevention of Ichthyophthirius Infection," Abstract, Grant for Sept. 1, 1992 through Aug. 31, 1996, Competitive Research Grants Office (NRI) GEOV, grant no. 92-37204-7838 (Available on-line on or before July 19, 1998).
		Dickerson et al., "Serotypic Variation Among Isolates of <i>Ichthyophthirius multifiliis</i> Based on Immobilization," <i>J. Euk. Microbiol.</i> , 40(6):816-820 (1993).
		Dickerson et al., "Vaccination against Ich," <i>Aquaculture</i> , 127(2-3):278-280 (1994).
		Dickerson et al., "Molecular Approaches Toward the Control of Ichthyophthirius Infection," CRIS report, NRI competitive grant no. 95-37204-2139, Sept 1, 1995 to Aug. 31, 2000, 5 pages (1995) (Available on-line on or before July 19, 1998).
		Dickerson et al., "Immune Response of Fishes to Ciliates," <i>Ann. Rev. Fish Dis.</i> , 6:107-120 (1996).
		Dickerson et al., "Display of an Ichthyophthirius I-Antigen on the Surface of Transformed <i>Tetrahymena thermophila</i> for Use as a Novel Vaccine in Fish," Abstract, Ann. Meeting, Conference of Research Workers in Animal Diseases, Nov. 8-10, Chicago (1998).
		Englund, "The Structure and Biosynthesis of Glycosyl Phosphatidylinositol Protein Anchors," <i>Ann. Rev. Biochem.</i> , 62:121-138 (1993).
		Ferguson, "What Can GPI Do for You?" <i>Parasitol. Today</i> , 10(2):48-52 (1994).
		Frohman, "RACE: Rapid Amplification of cDNA Ends," <i>PCR Protocols: A Guide to Methods and Applications</i> , Innis, et al., eds., Academic Press, San Diego, Title page, publication page, table of contents and pgs 28-38 (1990).
		Frohman, "RACE: Rapid Amplification of Complementary DNA Ends for Generation of Full-Length Complementary DNAs: Thermal RACE," <i>Meth. Enzymol.</i> , 218:340-356 (1993).
		Gaertig et al., "Perspectives on Tubulin Isotype Function and Evolution Based on the Observation that <i>Tetrahymena thermophila</i> Microtubules Contain a Single α - and β -Tubulin," <i>Cell Mot. Cytoskel.</i> , 25:243-253 (1993).
		Gaertig et al., "Electroporation-mediated replacement of a positively and negatively selectable β -tubulin gene in <i>Tetrahymena thermophila</i> ," <i>Proc. Natl. Acad. Sci. USA</i> , 91:4549-4553 (1994).

EXAMINER	Date Considered

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

OMB N . 0651-0011

Page 5 of 11

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 235.0017 0101	Serial No.: 09/497,967
	Applicant(s): Ted CLARK et al.	
	Filing Date: 4 February 2000	Group: 1646

		Gaertig et al., "High frequency vector-mediated transformation and gene replacement in <i>Tetrahymena</i> ," <u>Nuc. Acids Res.</u> , <u>22</u> (24):5391-5398 (1994).
		Gaertig et al., "Acetylation of Lysine 40 in α -tubulin is Not Essential in <i>Tetrahymena thermophila</i> ," <u>J. Cell. Biol.</u> , <u>129</u> (5):1301-1310 (1995).
		Gaertig, "New approaches for gene knockout, transgene expression and surface display in the ciliate <i>Tetrahymena thermophila</i> ," <u>Jap. J. of Protozool.</u> , <u>32</u> (1):11-19 (March 13, 1999).
		Gaertig et al., "Surface display of a parasite antigen in the ciliate <i>Tetrahymena thermophila</i> ," <u>Nature Biotechnology</u> , <u>17</u> (5):462-465 (May, 1999).
		Gall, ed., <u>The Molecular Biology of Ciliated Protozoa</u> , Academic Press, Inc., Orlando, Title page, publication page and table of contents only, 4 pages (1986).
		Garg et al., "Delivery by <i>Trypanosoma cruzi</i> of Proteins into the MHC Class 1 Antigen Processing and Presentation Pathway," <u>J. Immunol.</u> , <u>158</u> :3293-3302 (1997).
		Glover, ed., <u>DNA Cloning, Volume I: a practical approach</u> , IRL Press, Oxford, Title page, publication page and table of contents only, 8 pages (1985).
		Glover, ed., <u>DNA Cloning, Volume II: a practical approach</u> , IRL Press, Oxford, Title page, publication page and table of contents only, 7 pages (1985).
		Gorovsky, "Macro- and Micronuclei of <i>Tetrahymena pyriformis</i> : A Model System for Studying the Structure and Function of Eukaryotic Nuclei," <u>J. Protozool.</u> , <u>20</u> (1):19-25 (1973).
		Goven et al., "Protection of channel catfish, <i>Ictalurus punctatus</i> Rafinesque, against <i>Ichthyophthirius multifiliis</i> Fouquet by immunization," <u>J. Fish Biol.</u> , <u>17</u> :311-316 (1980).
		Gower et al., "Alternative Splicing Generates a Secreted Form of N-CAM in Muscle and Brain," <u>Cell</u> , <u>55</u> (6):955-964 (1988).
		Grossman et al., eds., <u>Methods in Enzymology Volume 65. Nucleic Acids Part I</u> , Academic Press Inc., New York, Title page, publication page and table of contents only, 8 pages (1980).
		Gubler et al., "Second-Strand cDNA Synthesis: mRNA Fragments as Primers," <u>Meth. Enzymol.</u> , <u>152</u> :330-335 (1987).

EXAMINER	Date Considered
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

OMB No. 0651-0011

Page 6 of 11

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 235.0017 0101	Serial No.: 09/497,967
	Applicant(s): Ted CLARK et al.	
	Filing Date: 4 February 2000	Group: 1646

		Haddad et al., "Analysis of exocytosis mutants indicates close coupling between regulated secretion and transcription activation in <i>Tetrahymena</i> ," <u>Proc. Natl. Acad. Sci. USA</u> , <u>94</u> (20):10675-10680 (1997).
		Hames et al., eds., <u>Nucleic acid hybridization: a practical approach</u> , IRL Press, Oxford, Title page, publication page and table of contents only, 8 pages (1985).
		He et al., "Protection of goldfish against <i>Ichthyophthirius multifiliis</i> by immunization with a recombinant vaccine," <u>Aquacult.</u> , <u>158</u> :1-10 (1997).
		Hedrick et al., "Passive Transfer of Sera with Antivirus Neutralizing Activity from Adult Channel Catfish Protects Juveniles from Channel Catfish Virus Disease," <u>Trans. Amer. Fish Soc.</u> , <u>116</u> :277-281 (1987).
		Hines et al., "Ichthyophthiriasis in the mirror carp <i>Cyprinus carpio</i> (L.) V. Acquired immunity," <u>J. Fish Biol.</u> , <u>6</u> :373-378 (1974).
		Hopp et al., "A Short Polypeptide Marker Sequence Useful for Recombinant Protein Identification and Purification," <u>Biotechnology</u> , <u>6</u> :1204-1210 (1988).
		Hünseler et al., "Genetic Characterization of the Secretory Mutant MS-1 of <i>Tetrahymena thermophila</i> : Vacuolarization and Block in Secretion of Lysosomal Hydrolases Are Caused by a Single Gene Mutation," <u>Dev. Genet.</u> , <u>13</u> :167-173 (1992).
		Innis et al., "Expression, Glycosylation, and Secretion of an <i>Aspergillus</i> Glucoamylase by <i>Saccharomyces cerevisiae</i> ," <u>Science</u> , <u>228</u> :21-26 (1985).
		Jones et al., "Oral Delivery of Micro-Encapsulated DNA Vaccines," <u>Dev. Biol. Stand.</u> , <u>92</u> :149-155 (1998).
		Kahn et al., "Transformation of <i>Tetrahymena thermophila</i> by microinjection of a foreign gene," <u>Proc. Natl. Acad. Sci. USA</u> , <u>90</u> (20):9295-9299 (1993).
		Kavenoff et al., "Chromosome-Sized DNA Molecules from <i>Drosophila</i> ," <u>Chromosoma</u> , <u>41</u> :1-27 (1973).
		Kiy et al., "Continuous high-cell-density fermentation of the ciliated protozoon <i>Tetrahymena</i> in a perfused bioreactor," <u>Appl. Microbiol. Biotechnol.</u> , <u>38</u> :141-146 (1992).
		Krieg et al., "CpG motifs in bacterial DNA trigger direct B-cell activation," <u>Nature</u> , <u>374</u> :546-549 (1995).
		Krieg et al., "The role of CpG dinucleotides in DNA vaccines," <u>Trends Microbiol.</u> , <u>6</u> (1):23-27 (1998).

EXAMINER	Date Considered

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

OMB No. 0651-0011

Page 7 of 11

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 235.0017 0101	Serial No.: 09/497,967
	Applicant(s): Ted CLARK et al.	
	Filing Date: 4 February 2000	Group: 1646

		Krug et al., "First-Strand cDNA Synthesis Primed with Oligo(dT)," <u>Meth. Enzymol.</u> , 152:316-325 (1987).
		La Flamme et al., "Expression of mammalian cytokines by <i>Trypanosoma cruzi</i> indicates unique signal sequence requirements and processing," <u>Mol. Biochem. Parasitol.</u> , 75:25-31 (1995).
		Lambris et al., "Third Component of Trout Complement," <u>J. Immunol.</u> , 151(11):6123-6134 (1993).
		Lee et al., "Missense Mutations at Lysine 350 in β 2-Tubulin Confer Altered Sensitivity to Microtubule Inhibitors in <i>Chlamydomonas</i> ," <u>Plant Cell</u> , 2(11):1051-1057 (1990).
		Leong et al., "DNA-polycation nanospheres as non-viral gene delivery vehicles," <u>J. Controlled Release</u> , 53:183-193 (1998).
		Lin et al., "Purification and Partial Characterization of Immobilization Antigens from <i>Ichthyophthirius multifiliis</i> ," <u>J. Protozool.</u> , 39(4):457-463 (1992).
		Lin et al., "Passive Immunization of Channel Catfish (<i>Ictalurus punctatus</i>) against the Ciliated Protozoan Parasite <i>Ichthyophthirius multifiliis</i> by Use of Murine Monoclonal Antibodies," <u>Infect. Immun.</u> , 64(10):4085-4090 (1996).
		Løvlie et al., "Molecular evidence for somatic recombination in the ribosomal DNA of <i>Tetrahymena thermophila</i> ," <u>Proc. Natl. Acad. Sci. USA</u> , 85:5156-5160 (1988).
		MacRae, "Tubulin post-translational modifications: Enzymes and their mechanisms of action," <u>Eur. J. Biochem.</u> , 244:265-278 (1997).
		Martindale, "Codon Usage in <i>Tetrahymena</i> and Other Ciliates," <u>J. Protozool.</u> , 36(1):29-34 (1989).
		Miller, <u>Experiments in Molecular Genetics</u> , Cold Spring Harbor Laboratory, Cold Spring Harbor, New York, Title page, publication page and table of contents only, 8 pages (1972).
		Nash et al., "Variant-specific surface proteins of <i>Giardia lamblia</i> are zinc-binding proteins," <u>Proc. Natl. Acad. Sci. USA</u> , 90(12):5489-5493 (1993).
		Nielsen et al., "Identification of prokaryotic and eukaryotic signal peptides and prediction of their cleavage sites," <u>Prot. Engin.</u> , 10:1-15 (1996).

EXAMINER	Date Considered

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

OMB No. 0651-0011
Page 8 of 11

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 235.0017 0101	Serial No.: 09/497,967
	Applicant(s): Ted CLARK et al.	
	Filing Date: 4 February 2000	Group: 1646

		Old et al., <u>Principles of Gene Manipulation, An Introduction to Genetic Engineering</u> , University of California Press, Berkeley, Title page, publication page and table of contents only, 3 pages (1981).
		Pan et al., "Tandem repeats of the 5' non-transcribed spacer of <i>Tetrahymena</i> rDNA function as a high copy number autonomous replicons in the macronucleus but do not prevent rRNA gene dosage regulation," <u>Nuc. Acids Res.</u> , <u>23</u> (9):1561-1569 (1995).
		Pan et al., "Replication of an rRNA Gene Origin Plasmid in the <i>Tetrahymena thermophila</i> Macronucleus is Prevented by Transcription through the Origin from an RNA Polymerase I Promoter," <u>Mol. Cell. Biol.</u> , <u>15</u> (6):3372-3381 (1995).
		Parker, <u>Studies on the Natural History of Ichthyophthirius multifiliis Fouquet 1876, an Ectoparasitic Ciliate of Fish</u> , Ph.D. Dissertation, The University of Maryland, College Park, MD, 94 pages (1965).
		Peters-Regehr et al., "Primary Structure and Origin of a Predator Released Protein that Induces Defensive Morphological Changes in <i>Euplotes</i> ," <u>Europ. J. Protistol.</u> , <u>33</u> :389-395 (1997).
		Prat et al., "Nucleotide Sequence of the <i>Paramecium primaurelia</i> G Surface Protein, a Huge Protein with a Highly Periodic Structure," <u>J. Mol. Biol.</u> , <u>189</u> (1):47-60 (1986).
		Preer, "Surface Antigens of <i>Paramecium</i> ," <u>The Molecular Biology of Ciliated Protozoa</u> , Gall, ed., Academic Press, Orlando, Title page, publication page, table of contents and pgs. 301-339 (1986).
		Prescott, "The DNA of Ciliated Protozoa," <u>Microbiol. Rev.</u> , <u>58</u> (2):233-267 (1994).
		Raftery et al., "Systematic alterations in the anticodon arm make tRNA ^{Glu} -Su _{CC} a more efficient suppressor," <u>EMBO J.</u> , <u>6</u> (5):1499-1506 (1987).
		Redeker et al., "Polyglycylation of Tubulin: A Posttranslational Modification in Axonemal Microtubules," <u>Science</u> , <u>266</u> :1688-1691 (1994).
		Reisner et al., "Concerning the Tertiary Structure of the Soluble Surface Proteins of Paramecium," <u>Biochemistry</u> , <u>8</u> (11):4637-4644 (1969).
		Reymond et al., "Anchoring of an Immunogenic <i>Plasmodium falciparum</i> Circumsporozoite Protein on the Surface of <i>Dictyostelium discoideum</i> ," <u>J. Biol. Chem.</u> , <u>270</u> (21):12941-12947 (1995).

EXAMINER	Date Considered
*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

OMB No. 0651-0011

Page 9 of 11

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 235.0017 0101	Serial No.: 09/497,967
	Applicant(s): Ted CLARK et al.	
	Filing Date: 4 February 2000	Group: 1646

		Roy et al., "Oral gene delivery with chitosan-DNA nanoparticles generates immunologic protection in a murine model of peanut allergy," <u>Nature Med.</u> , <u>5</u> (4):387-391 (April, 1999).
		Rusch et al., "Protein transport via amino-terminal targeting sequences: common themes in diverse systems (Review)," <u>Mol. Membr. Biol.</u> , <u>12</u> (4):295-307 (1995).
		Rusconi et al., "The anticodon is the signal sequence for mitochondrial import of glutamine tRNA in <i>Tetrahymena</i> ," <u>Genes Dev.</u> , <u>10</u> (22):2870-2880 (1996).
		Sambrook et al., <u>Molecular Cloning: A Laboratory Manual, Second Edition</u> , Books 1-3, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York, Title page and table of contents only, 29 pages (1989).
		Saraste et al., "The P-loop - a common motif in ATP- and GTP-binding proteins," <u>Trends Biochem. Sci.</u> , <u>15</u> :430-434 (1990).
		Schleif et al., <u>Practical Methods in Molecular Biology</u> , Springer-Verlag, New York, Title page, publication page and table of contents only, 7 pages (1981).
		Seeber et al., "Analysis of <i>Toxoplasma gondii</i> stably transfected with a transmembrane variant of its major surface protein, SAG1," <u>J. Cell Sci.</u> , <u>111</u> :23-29 (1998).
		Setlow et al., eds., <u>Genetic Engineering: Principles and Methods, Vol. 1</u> , Plenum Press, New York, Title page, publication page and table of contents only, 4 pages (1979).
		Smith et al., "Characterization of the T, L, I, S, M and P Cell Surface (Immobilization) Antigens of <i>Tetrahymena thermophila</i> : Molecular Weights, Isoforms, and Cross-Reactivity of Antisera," <u>J. Protozool.</u> , <u>39</u> (3):420-428 (1992).
		Spangler et al., "The Nucleotide Sequence of the 17 S Ribosomal RNA Gene of <i>Tetrahymena thermophila</i> and the Identification of Point Mutations Resulting in Resistance to the Antibiotics Paromomycin and Hygromycin," <u>J. Biol. Chem.</u> , <u>260</u> (10):6334-6340 (1985).
		Stemmer et al., "Single-step assembly of a gene and entire plasmid from large numbers of oligodeoxyribonucleotides," <u>Gene</u> , <u>164</u> :49-53 (1995).
		Suggs et al., "Use of synthetic oligonucleotides as hybridization probes: Isolation of cloned cDNA sequences for human β_2 -microglobulin," <u>Proc. Natl. Acad. Sci. USA</u> , <u>78</u> (11):6613-6617 (1981).
		Sundermann et al., "Recognition of Prey by Suctoria: The Role of Cilia," <u>J. Protozool.</u> , <u>33</u> (4):473-475 (1986).

EXAMINER	Date Considered
----------	-----------------

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

OMB No. 0651-0011
Page 10 of 11

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 235.0017 0101	Serial No.: 09/497,967
	Applicant(s): Ted CLARK et al.	
	Filing Date: 4 February 2000	Group: 1646

		Sunyer et al., "Multiple forms of complement C3 in trout that differ in binding to complement activators," <i>Proc. Natl. Acad. Sci. USA</i> , <u>93</u> :8546-8551 (1996).
		Tobin et al., "Transfected <i>Leishmania</i> Expressing Biologically Active IFN- γ ," <i>J. Immunol.</i> , <u>150</u> (11):5059-5069 (1993).
		Tondravi et al., "Transformation of <i>Tetrahymena thermophila</i> by microinjection of ribosomal RNA genes," <i>Proc. Natl. Acad. Sci. USA</i> , <u>83</u> :4369-4373 (1986).
		Tondravi et al., "Molecular Characterization of <i>SerH3</i> , a <i>Tetrahymena thermophila</i> Gene Encoding a Temperature-Regulated Surface Antigen," <i>Mol. Cell. Biol.</i> , <u>10</u> (11):6091-6096 (1990).
		Viele et al., "Adoptive transfer of immunity against <i>Vibrio anguillarum</i> in rainbow trout, <i>Salmo gairdneri</i> Richardson, vaccinated by the immersion method," <i>J. Fish Biol.</i> , <u>17</u> :379-386 (1980).
		Williams et al., "Recombinant glycoprotein production in the slime mould <i>Dictyostelium discoideum</i> ," <i>Curr. Opin. Biotechnol.</i> , <u>6</u> :538-542 (1995).
		Wirtz et al., "Inducible Gene Expression in Trypanosomes Mediated by a Prokaryotic Repressor," <i>Science</i> , <u>268</u> :1179-1183 (1995).
		Woo, "Immunization Against Parasitic Diseases of Fish," <i>Dev. Biol. Stand.</i> , <u>90</u> :233-241 (1997).
		Wu, ed., <u>Methods in Enzymology Volume 68 Recombinant DNA</u> , Academic Press Inc, New York, Title page, publication page and table of contents only, 6 pages (1979).
		Wu et al., eds., <u>Methods in Enzymology Volume 100 Recombinant DNA Part B</u> , Academic Press Inc, New York, Title page, publication page and table of contents only, 5 pages (1983).
		Wu et al., eds., <u>Methods in Enzymology Volume 101 Recombinant DNA Part C</u> , Academic Press Inc, New York, Title page, publication page and table of contents only, 6 pages (1983).
		Xu et al., "Analysis of the Soluble and Membrane-bound Immobilization Antigens of <i>Ichthyophthirius multifiliis</i> ," <i>J. Euk. Microbiol.</i> , <u>42</u> (5):558-564 (1995).
		Yao et al., "Accurate Processing and Amplification of Cloned Germ Line Copies of Ribosomal DNA Injected into Developing Nuclei of <i>Tetrahymena thermophila</i> ," <i>Mol. Cell. Biol.</i> , <u>9</u> (3):1092-1099 (1989).

EXAMINER	Date Considered

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

OMB No. 0651-0011
Page 11 of 11

INFORMATION DISCLOSURE STATEMENT	Atty. Docket No.: 235.0017 0101	Serial No.: 09/497,967
	Applicant(s): Ted CLARK et al.	
	Filing Date: 4 February 2000	Group: 1646

		Yao et al., "Transformation of <i>Tetrahymena</i> to cycloheximide resistance with a ribosomal protein gene through sequence replacement," <u>Proc. Natl. Acad. Sci. USA</u> , <u>88</u> (21):9493-9497 (1991).
		Young et al., "Efficient isolation of genes by using antibody probes," <u>Proc. Natl. Acad. Sci. USA</u> , <u>80</u> :1194-1198 (1983).
		Yu et al., "Circular ribosomal DNA plasmids transform <i>Tetrahymena thermophila</i> by homologous recombination with endogenous macronuclear ribosomal DNA," <u>Proc. Natl. Acad. Sci. USA</u> , <u>85</u> :5151-5155 (1988).
		Yu et al., "Transformation of <i>Tetrahymena thermophila</i> with a mutated circular ribosomal DNA plasmid vector," <u>Proc. Natl. Acad. Sci. USA</u> , <u>86</u> :8487-8491 (1989).
		Zhang et al., "Cysteine-Dependent Zinc Building by Membrane Proteins of <i>Giardia lamblia</i> ," <u>Infect. Immun.</u> , <u>61</u> (2):520-524 (1993).
EXAMINER		Date Considered

*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Based on Form PTO-FB-A820 Patent and Trademark Office, U.S. Department of Commerce
(Also form PTO-1449)

11/24/2003 16:11 FAX 6123051228

MUETING RAASCH GEBHARDT

Exhibit C

Receipt is hereby acknowledged for the following in the U.S. Patent and Trademark Office:

Applicant(s): Ted CLARK et al.
 Serial No.: 09/497,967
 Filed: 4 February 2000
 Title: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF ICHTHYOPHTHIRIUS

Enclosed: A Preliminary Amendment (4 pgs); an Information Disclosure Statement (2 pgs); 1449 forms (11 pgs); copies of 137 cited documents; and transmittal document (in triplicate).

Mailed: June 16, 2000
 Docket: 235.0017 0101

VAS/Img

Receipt is hereby acknowledged for the following in the U.S. Patent and Trademark Office:

Applicant(s): Ted CLARK et al.
 Serial No.: 09/497,967
 Filed: 4 February 2000
 Title: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF ICHTHYOPHTHIRIUS

Enclosed: A Preliminary Amendment (4 pgs); an Information Disclosure Statement (2 pgs); 1449 forms (11 pgs); copies of 137 cited documents; and transmittal document (in triplicate).

Mailed: June 16, 2000
 Docket: 235.0017 0101

VAS/Img